

eXtra Terrestrial HD

For Freeview HD

User's Manual

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IMPORTANT SAFETY INSTRUCTIONS



TO REDUCE THE RISK OF
ELECTRIC SHOCK,
DO NOT REMOVE COVER.
NO USER-SERVICEABLE
PARTS INSIDE. REFER
SERVICING TO QUALIFIED
SERVICE PERSONNEL.



This symbol indicates
"dangerous voltage"
inside the product that
presents a risk of electric
shock or personal injury.



This symbol indicates
important instructions
accompanying the
product.

"Dolby" and the double-D symbol are
trademarks of Dolby Laboratories.
Manufactured under license from Dolby
Laboratories.

1 INTRODUCTION

This user manual is intended to describe the procedures for operating the Extra Terrestrial High Definition digital terrestrial receiver designed for the Freeview HD service. This product is a high performance Digital TV Terrestrial Receiver. It offers users access to all of the free-to-air DVB-T Digital TV programs being broadcasted in New Zealand via UHF aerial in High Definition.

Icons

In this manual, the following icons are used:



This icon means that a remote control button is used.



This icon means that your special attention is required.



This icon means that the user should pay attention to the procedures described.

2 MAIN FUNCTIONS AND FEATURES

This product is a high performance and cost-effective HDTV Terrestrial receiver.

Functions

1. Fully complaint DVB-T standard
2. Fully complaint MPEG-4 H.264/AVC Main Profile Level 3 and High Profile Level 4
3. Fully complaint MPEG-2 MP@HL and MP@ML
4. Fully complaint MPEG-1 Layer I & II, Dolby Digital Audio and HE-AAC Digital Audio
5. 174 MHz ~ 858 MHz VHF&UHF input and LOOP OUT
6. On Screen Display with Multi-language
7. 4000 Channels capacity
8. Fully support to Electronic Program Guide(EPG)
9. Picture in Graphics(PIG) support
10. Auto search and Manual search supported
11. Automatic Save for last channel
12. Parental control for channels
13. Plug and Play installation with an ease to use Menu System
14. Optical S/PDIF Digital audio output interface
15. 576I,576P,720P,1080I Video Resolution supported
16. Auto, 4:3, and 16:9 Aspect Ratio supported
17. EBU Teletext supported
18. DVB or EBU subtitle selected by the system based on availability on the network
19. Auto channel editing and arranging with MHEG-5 software
20. HDMI (High Definition Multimedia Interface) output without HDCP
21. Software upgrade via USB2.0 interface

Features

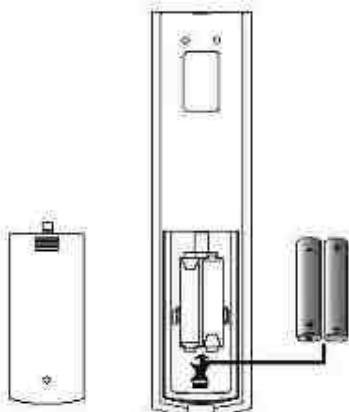
1. Main Processor STi7100 (266MHz)
2. Memory 8 MB
3. SDRAM 128 MB
4. High sensitivity, low Eb/No for receive Digital Television
5. MHEG-5 EPG Application supported
6. Multi-bilingual OSD language , audio language and subtitle language supported
7. Excellent video quality and audio quality

3 THE REMOTE CONTROL

Photograph	Key	Function
	MUTE	Disable Audio output
	STANDBY	Switch to stand-by
	0.....9	0-9 numeral buttons, for input of numbers or for selecting a TV channel
	LIST	Open current channel programme list / switch between favorites lists / wake up receiver from stand-by
	SWAP	Recall last channel while watching digital TV or listening to radio / wake up the receiver from stand-by
	RED	Function key
	GREEN	Function key
	YELLOW	Function key
	BLUE	Display Signal strength and Signal quality after pressing the <INFO> button
	MENU	Display menu, press again to exit current menu
	EXIT	Back to previous menu without saving
	UP/DOWN	Move selection up/down within menus and lists
	LEFT/RIGHT	While watching a channel, the LEFT/RIGHT buttons increases or decreases the audio output volume. Within a menu, press the LEFT button to return to previous menu and the RIGHT button to enter a sub-menu.
	OK	Call up a programme list for the current channel while watching digital/TV or listening to the radio. In a menu, this button serves to confirm a selection.
	PGUP/PGDW	Page up/down in lists
	VOL+/VOL-	Increase or decrease the audio output volume
	CH+/CH-	Select next/previous channel / wake up the receiver from stand-by
	V FORMAT	Switch between PAL and NTSC video formats
	A. Ratio	Set video output aspect ratio to 4:3 or 16:9
	SCALE	Switch between display modes Letter Box, Panscan and FULL
	TELETEXT	TELETEXT function key
	SUBTITLE	Switch between different subtitles
	TV/RADIO	Switch between TV and RADIO
	RES.	Switch video output resolutions between 576P, 720P and 1080I
	AUDIO	Switch between Left channel audio output, Right channel audio output and Stereo audio output
	LANGUAGE	Change audio language output
	EPG	Electronic Program Guide
	INFO	Program Information

BATTERY INSTALLATION

Insert the batteries while observing the correct (+) and (-) polarities as illustrated below.



About the batteries

- ◎ If the remote control unit fails to work even when it is operated near the LCD TV/monitor, please replace the batteries.
- ◎ Use size UM-4(AAA) batteries.

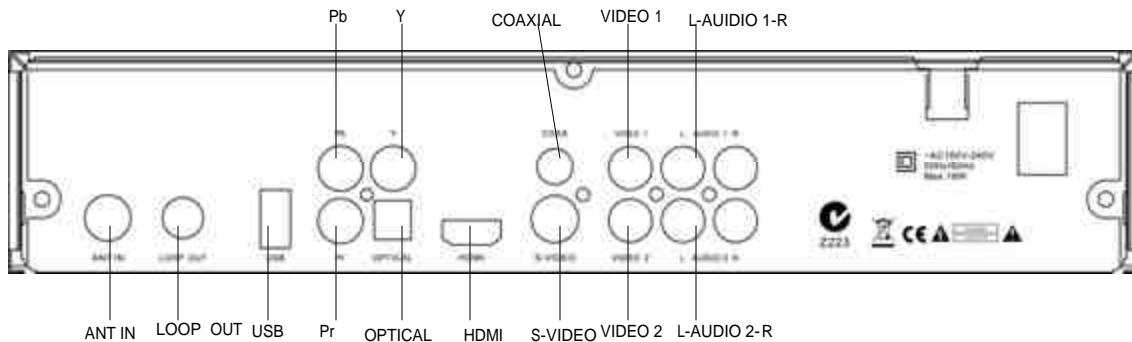
Notes:

- ◎ Do not use rechargeable (Ni-Cd) batteries.
- ◎ Do not attempt to recharge, short circuit, disassemble, heat or throw the batteries into the fire.
- ◎ Do not drop, step on or cause any impact to the remote control unit. This may damage it, resulting malfunction.
- ◎ Do not mix old and new batteries.
- ◎ If the remote control unit is not going to be used for a long time, remove the batteries.

Caution

Keep batteries out of children's reach. If batteries are swallowed, contact a physician immediately.

4 FRONT AND REAR PANEL



Rear Panel

ANT IN	Digital Terrestrial TV Broadcast signal input
Loop OUT	Output of Digital Terrestrial TV Broadcast signal
USB	USB1.1 Port for firmware upgrade
HDMI	Should be HDMI without HDCP version 1.3a
YPbPr	High Definition Component video output
Optical	Digital audio output
Coaxial	Digital audio output
S-video	S-Video output connect to the TV SET
Video	Composite video signal output
Audio L/R	Analog Audio output

4.1 FRONT PANEL

The red LED is a power indicator and the green LED is a signal indication.
 User can access those function keys as follow: CH+/UP, CH-/DOWN, VOL+/LEFT and VOL-/RIGHT



5 FIRST INSTALL

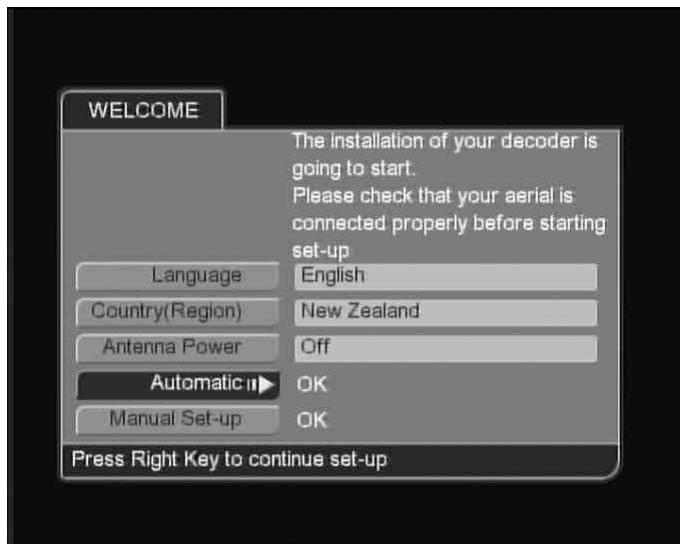


Note: A UHF TV Antenna is used to connect to the Terrestrial Receiver. The Antenna should be used where the user is within an area with Freeview HD TV coverage. (Please refer to "Installation" for details.)

Please connect the Receiver to your television set (HDMI cable recommended) and see that the antenna is connected to the "ANT IN" input connector on the Receiver. Connect one end of the power cable to the Receiver and connect the power supply to the wall socket. Switch on your TV set and the Receiver.



When the welcome screen is displayed, please select the preferred language for the user interface and the country where the Receiver is used. Highlight "Set-up" on the Menu using the 'UP/DOWN Arrow' buttons and press the "RIGHT Arrow" button to confirm your selection.

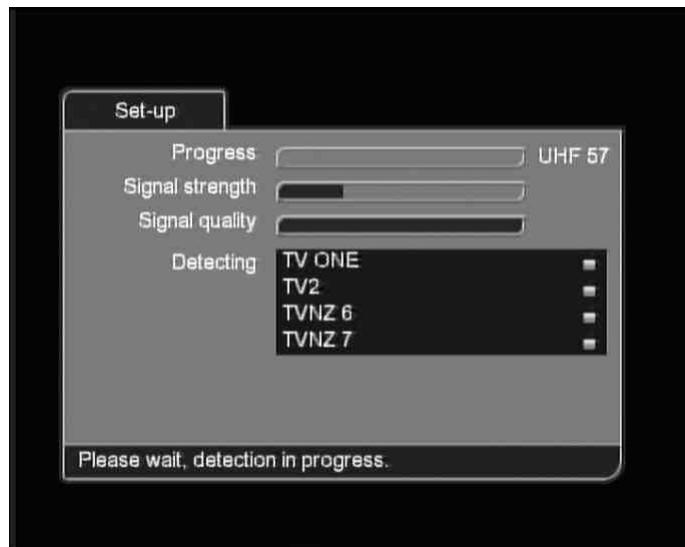


If you decide to use a UHF Antenna with an amplifier that requires power from the receiver, please turn 'On' the Antenna Power. This is not normally used in New Zealand.

The Receiver will start to search for available channels and a few minutes are required to complete this operation. When a TV channel is detected, its corresponding Signal strength and Signal quality are displayed.

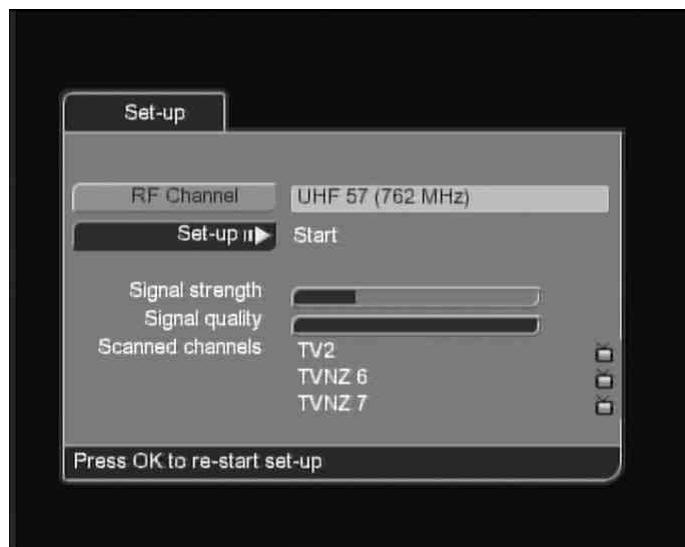
If channel scanning is completed successfully, a list of channels found during the scanning process is displayed on screen.

If no channel is found during the channel scanning process, the user may adjust antenna position to obtain optimal TV signal. To do this, the user can select an appropriate RF Channel used by the broadcast station (for example, UHF 29, 33 or 45 for New Zealand) using the manual channel scanning interface, and the corresponding signal Strength, signal quality and the name of the channel will be displayed. The user may re-scan for TV channels.



New Zealand Digital Terrestrial Broadcast TV Stations and Channels

Broadcast Station	Channel 29	Channel 33	Channel 45



6 BASIC USE

6.1 AUDIO LANGUAGE AND AUDIO MODE

The TV program might have multilingual audio language and the audio might be broadcasted on different audio modes such as Stereo, Dolby, Left or Right. You can press Language key or AUDIO key on the handset to select preferred audio language and audio mode. The Audio Track window will display on the screen after you press Language key or Audio key. The screenshot below illustrates this. All the audio language available will display on the audio track window. You can press UP/DOWN key to move the cursor and press OK key to select preferred audio language and exit the audio track window. You can press Left/Right key to select preferred audio mode. If there is no audio output after you select the audio language, it indicates that there is no audio on the current audio mode. You will have to select another audio mode.



6.2 SUBTITLE

The TV program may have multilingual subtitle information. You can press SUBTITLE key to select preferred subtitle language. The subtitle information window will display on the screen after you press SUBTITLE key. All the subtitle languages will display on the subtitle information window. The screenshot is illustrated below. Pressing UP/DOWN key move the cursor and press OK key to select the preferred subtitle language and exit the window.



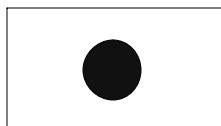
6.3 RESOLUTION AND ASPECT RATIO

The video of the TV program may have a different resolution such as 720x576P, 1280x720P, 1920x1080I. Normally a standard definition program may have 720x576P and a high definition program might have 1280x720P or 1920x1080I. The aspect ratio of the video may be 4:3 (also known as Anamorphic Image) or 16:9 (also known as widescreen TV). Normally the aspect ratio of standard definition video should be 4:3 and the high definition of video should be 16:9. In order to have an excellent picture on the TV set the user will have to set the preferred resolution and aspect ratio. Press the A.RATIO key, SCALE key, RES key to display the resolution and aspect ratio setting window. The screenshot of the resolution and aspect ratio window is illustrated below. Press the UP/DOWN key to move the cursor and press the LEFT/RIGHT key to select preferred resolution and aspect ratio, then press OK key to exit the window.



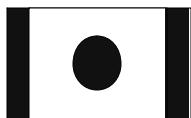
Here is a description of how the aspect ratio conversion mode chosen, the received stream and the user's television sets aspect ratios.

16:9 Stream on a 16:9 TV

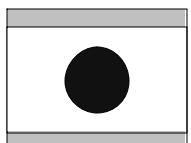


Whatever the mode

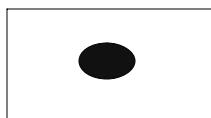
4:3 Stream on a 16:9 TV



Letter-box



Pan and scan



Full Screen

4:3 Stream on a 4:3 TV

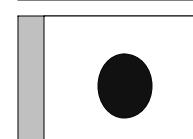


Whatever the mode

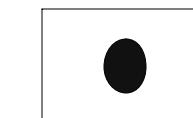
16:9 Stream on a 4:3 TV



Letter-box



Pan and scan



Full Screen



6.4 TELETEXT FUNCTION

Press TELETEXT key to launch the TELETEXT function while you are watching a TV program. The TELETEXT home page will appear in approximately 5 seconds. The screenshot is illustrated below. Use RED/GREEN/YELLOW/BLUE key on the remote control as function key to browse more content. Return back to the TV program screen by pressing the EXIT key.



6.5 TV CHANNEL AND PROGRAMME INFORMATION

 A semi-transparent information banner is displayed at the bottom of the screen when:

- the TV channel is changed (displayed for 5 seconds)
- the INFO button is pressed

Information presented in the banner includes:

- Channel name and channel number
- Signal strength and signal quality of the current TV channel
- Information on the current and the next TV programmes
- Video and audio coding standard of the current program and aspect ratio information, resolution information of the current program.



 If the information banner is displayed permanently, press the EXIT button on the remote to hide it.

6.6 DETAILED INFORMATION ABOUT THE CURRENT PROGRAMME

 To get detailed programme information, press the INFO button when the information banner is shown.



Information shown includes:

- The name of the current TV programme and its related time information
- Nature of the current TV programme and its duration
- Parental control information of the current program
- Description of the current TV programme. This may contain several pages. Use PGUP and PGDW buttons to scroll through pages.



Note: To obtain information on the current TV programme, press the INFO button on the remote control unit once.

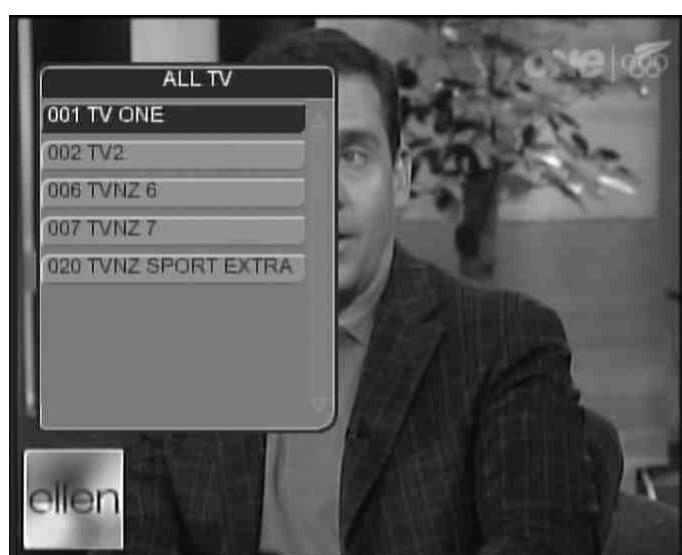


When detailed information concerning the next programme is displayed, pressing the INFO button again will hide the information banner and detailed information.

6.7 TV CHANNEL LIST



While watching a TV programme, press the OK button on the remote control unit to display a semi-transparent banner showing a list of available TV channels stored in the Receiver. View a TV channel by highlighting the name of a TV channel on the banner and press the OK button. Press the EXIT button on the remote control unit to hide the TV Channel banner.





6.8 MHEG-5 EPG APPLICATIONS

Interactive MHEG-5 application browser has been embedded in the receiver. MHEG-5 EPG applications browser was fully designed for Freeview HD. Press EPG Key on the remote control to launch MHEG-5 EPG applications while you are watching a TV program. The “Loading” message will display on the screen after you press EPG Key. The screenshot is illustration below.



The EPG information will appear in approximately 2 seconds and the screenshot is illustrated below. While watching a TV programme or listening to a radio programme, press the EPG button on the remote control unit to open the Electronic Programme Guide for the current TV channel. Information on the current and next TV or radio programmes for up to 8 days, including their names and schedule are displayed.



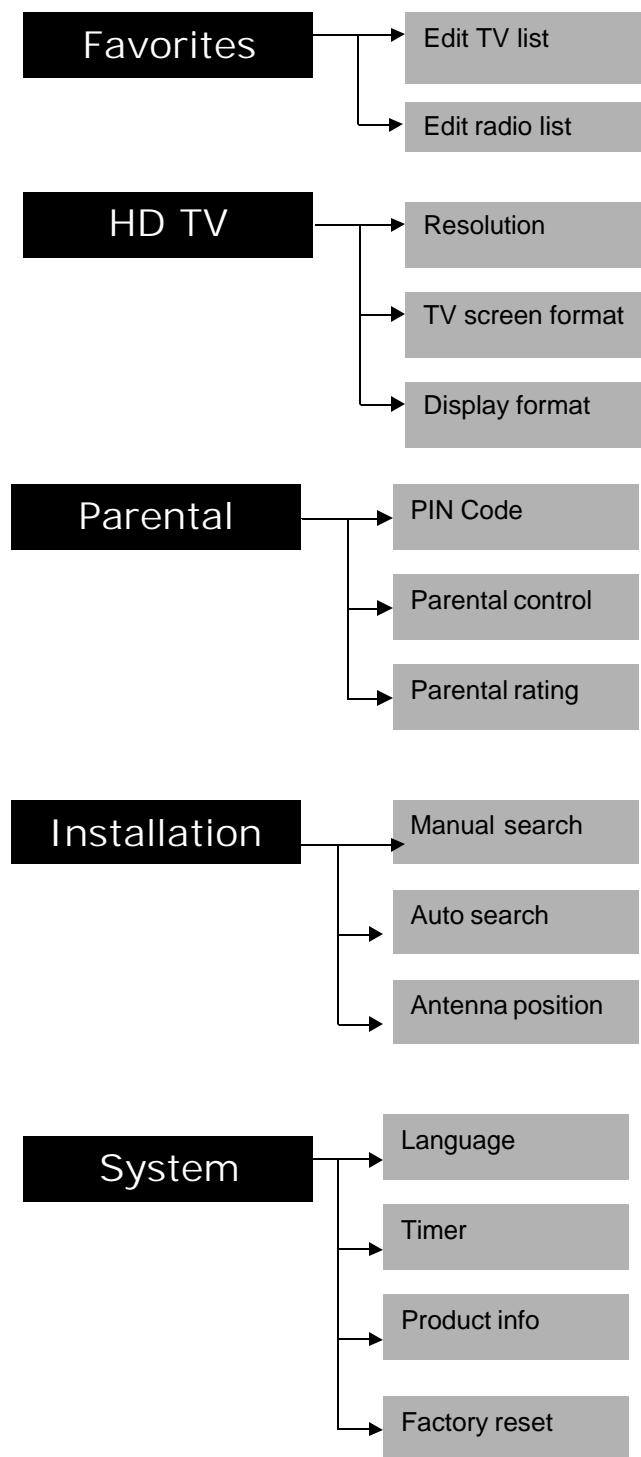
Press LEFT/RIGHT key on the remote control to change channel and press UP/DOWN key on the remote control to check the program. The content of the current program also will display on the bottom right of the screen. You can find 8 days of TV program information on the EPG browser. Press YELLOW key on the remote control to display the program list of the previous day and press BLUE key on the remote control to display the program list of the next day. Press OK key on the remote control to watch the TV program.

The entire current and next program on the entire channel will display after you press EPG key on the remote control. The screenshot is illustration below. You can press UP/DOWN key to change the channel. Go back to the previous screen by press EPG key on this current and next program information screen.



7 MENU INFORMATION

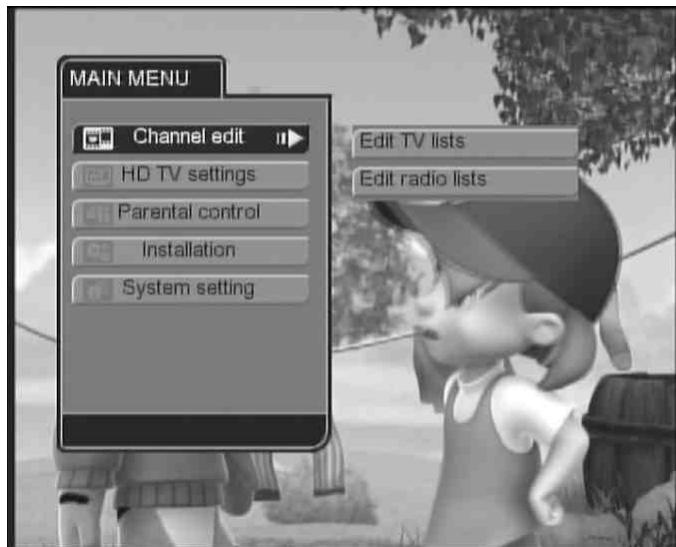
7.1 MENU





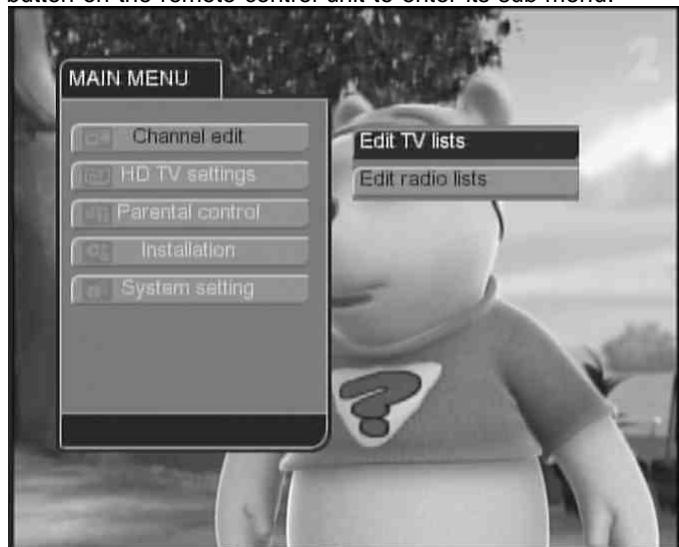
Press the MENU button on the remote control unit to enter the Main Menu screen. The following information is displayed:

- Favourites
- HDTV Settings
- Parental control
- Installation
- System Setting



7.2 FAVOURITES

To manage lists of TV channels and Radio channels, use the MENU button and select **Favourites** by pressing the RIGHT button on the remote control unit to enter its sub-menu.



The first option on the menu, **Edit TV lists**, allows managing your Favourite TV lists, i.e. adding or removing TV channels in your Favourite TV lists.



To edit your Favourites TV lists, press RED key to add the channel to favourites channel list, press BLUE key to lock the channel. Press MENU key to exit the menu and save setting. Press EXIT key or LEFT key to back to the previous menu.



7.3 HDTV SETTING

To enter the HDTV Setting menu, press the MENU button on the remote control unit, then press the DOWN button twice, followed by the RIGHT button. HDTV Setting menu allows the user to set miscellaneous parameters for audio and video outputs. Press the RIGHT button on the remote control unit to enter the sub-menu. Press the UP/DOWN button to highlight a selection and press the OK button to confirm selection. To return to previous menu, press the LEFT button or the EXIT button.



Banner

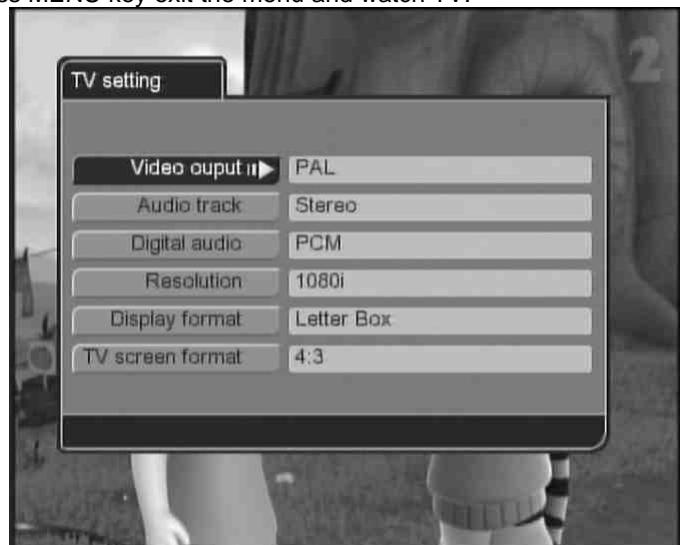
- The **Banner** sub-menu allows the appearance of the information banner to be changed. Highlight **Banner** in the System Setting sub-menu and press the RIGHT button on the remote control unit to enter the **Banner** sub-menu.

Display duration: This allows adjusting the duration of the information banner display when the user changes a TV channel. From the **Banner** sub-menu, highlight **Display duration** with the UP/DOWN buttons and press the RIGHT button. Select the desired display duration (10 seconds, 5 seconds or 3 seconds) with the UP/DOWN buttons. Confirm your selection by pressing the OK or LEFT buttons. Cancel your selection by pressing the EXIT button. Default setting is 10 seconds.



7.3.1 TV Settings

The **TV Setting** sub-menu allows the user to select an appropriate video and audio output signals to your television set. Highlight **TV Setting** in the System Setting sub-menu and press the RIGHT button on the remote control unit to enter the **TV Setting** sub-menu. Press UP/DOWN key highlight the option and press OK key on the remote control to confirm. Press EXIT key or LEFT key back to the previous menu. Press MENU key exit the menu and watch TV.



Video output: This allows selecting PAL or NTSC TV video output format. From the **TV Setting** sub-menu, highlight **Video output** with the UP/DOWN buttons and press the RIGHT button. Select the

desired video output (PAL or NTSC) with the UP/DOWN buttons. Confirm your selection by pressing the OK or LEFT buttons. Cancel your selection by pressing the EXIT button. Default setting is PAL.

Audio track: This allows selecting mono or stereo audio output from the Receiver to your TV set. From the **TV setting** sub-menu, highlight **Audio mode** with the UP/DOWN buttons and press the RIGHT button. Select the desired audio mode (Mono Left, Mono Right or Stereo) with the UP/DOWN buttons. Confirm your selection by pressing the OK or LEFT buttons. Cancel your selection by pressing the EXIT button. Default setting is STEREO.

Digital Audio: This allows setting the HDMI, Coaxial and/or Optical digital audio output by PCM or AAC/AC3 format.



 If you selected 'AAC/AC3' output, all digital output switches to AAC / AC3 includes HDMI. Do not do this unless your TV set or A/V amplifier supports HDMI input in AC3, otherwise you will have no sound.

If a High Definition TV (HDTV) set is connected to the HDMI output of the Set Top Box, the resolution can be adjusted to match the TV Set capabilities.

It has been noted that many HDTV in New Zealand have a variety of up-scalers or down-scalers built in. An up-scaler will be used where the HDTV screen has a resolution of 1080. When you feed a 720P signal to the HDTV it will up-scale the signal to fit the 1080 screen. In another HDTV that has a 720 screen, it may down-scale a 1080I input to suit the screen. Any change in scaling results in some losses in the picture quality.

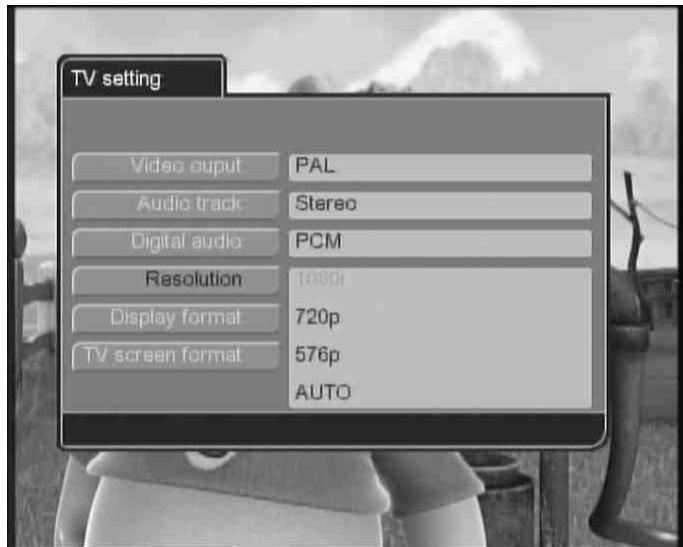
Because of these factors, and many others, including screen sizes that are not 1080 or 720 but are instead somewhere in between, you will need to experiment to find out which resolution setting works best on your HDTV. It is not necessarily the highest resolution.

Select **Resolution**, press "right arrow" button and select the desired choice with the "up arrow" and "down arrow" buttons. The possible choices are:

- 1080I
- 720P
- 576P
- AUTO

The default setting is 576P.

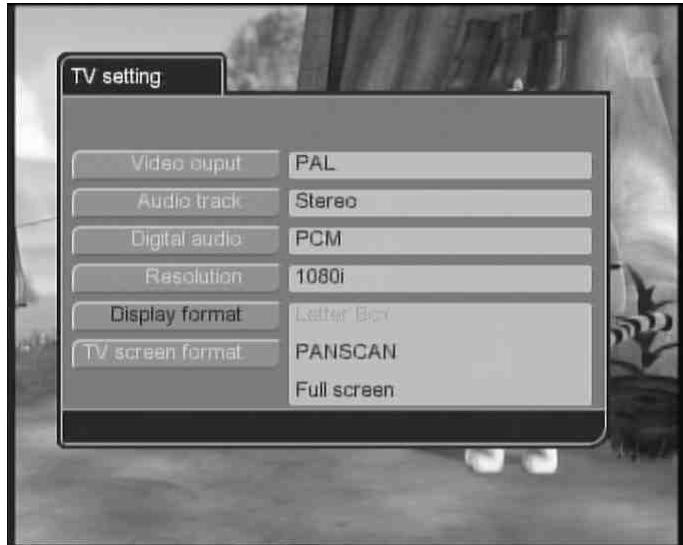
Validate your choice by pressing the OK or LEFT button on the remote control unit. Cancel the choice by pressing the EXIT button.



TV Screen format allows setting the screen aspect ratio. Select **TV Screen format**, press the RIGHT button and select the desired choice with the UP/DOWN buttons. Validate your choice by pressing the OK or LEFT button. Cancel selection by pressing the EXIT button. The possible choices are:

- 4:3
- 16:9

The factory default setting is 4:3.



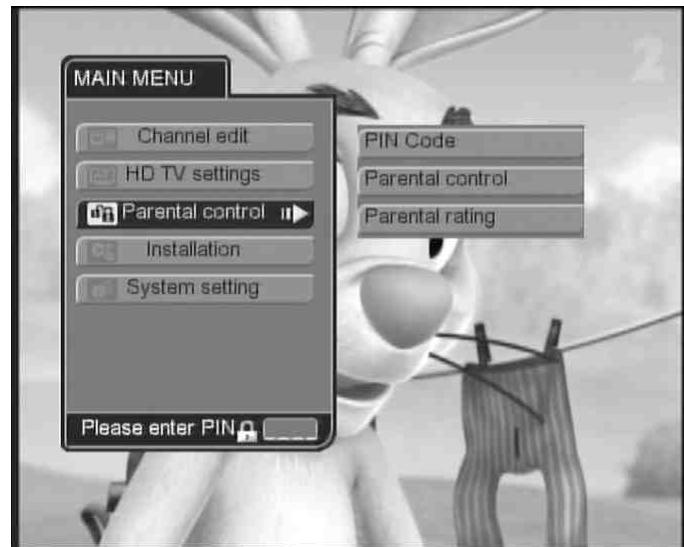
Display format allows setting the display format. Select **Display format**, press the RIGHT button on the remote control unit and select the desired choice with the UP/DOWN buttons. Validate your choice by pressing the OK or LEFT button. Cancel your selection by pressing the EXIT button. The possible choices are "Letter Box", "PANSCAN" and "Full Screen".

Again you will have to choose the format that works best on your HDTV. Many users with widescreen HDTVs choose to have the screen format set to 4:3 and the display format set to Pan Scan. This allows a good compromise for viewing older TV programs as well as newer wide screen programs. However you may prefer instead to set the screen format to 16:9 and the display format to full screen and just live with the blank space on the edge of the screen when an older program is broadcast.

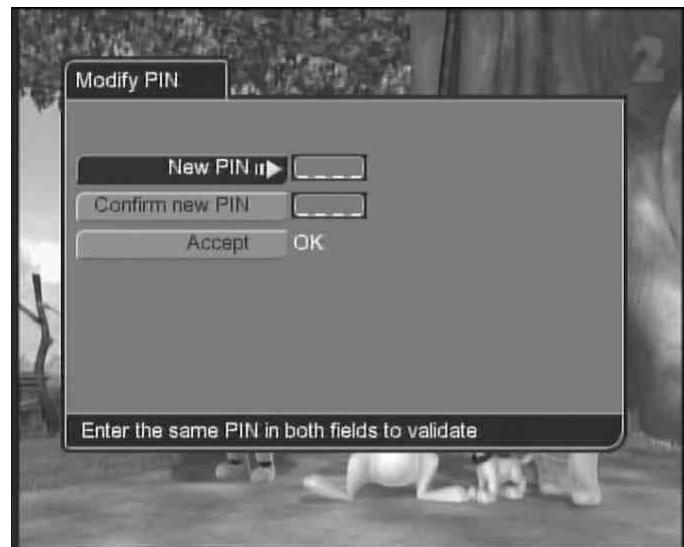
7.4 PARENTAL CONTROL

To enter the **Parental Control** menu, press the MENU button on the remote control unit, then press the DOWN button twice, followed by the RIGHT button. To enter this menu, a PIN-code is required. The default PIN-code is 0000 and can be changed after entering the Parental Control sub-menu. If a new PIN-code is set by the user, please remember this new PIN-code.

The Receiver has a parental control system with a PIN-code protection. It allows activation or deactivation of the parental control function, set parental rating (allow viewing of TV programmes suitable for a certain age), and lock (prevent viewing) TV channels.

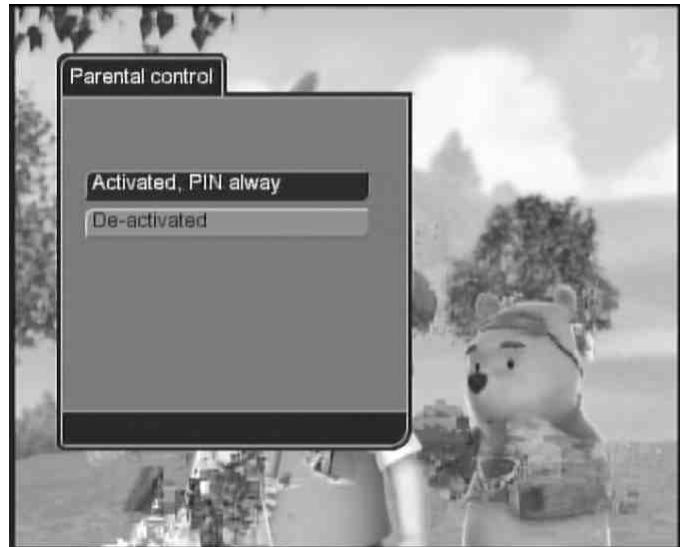


⇒ **PIN code** menu allows changing the PIN code. Select **Modify** to enter the Pin Code menu. Enter your new PIN-code next to the “**New PIN**” and the “**Confirm new Pin**” boxes. Select “**Accept**” to confirm your new PIN-code.



⇒ **Parental control** menu allows activation or deactivation of the parental control feature using the following parameters. Press UP/DOWN highlight the option and press OK back to confirm and back to the previous menu.

- Activate parental control, a PIN code is always necessary
- Deactivate parental control.



⇒ **Parental Rating** menu allows the following settings:

- Deactivate parental rating (OFF)
- Allow only programmes for children over 9 years old
- Allow only programmes for children over 11 years old
- Allow only programmes for children over 18 years old

Press UP/DOWN key highlight the option and press OK key confirm and back to the previous menu.



8 INSTALLATION

8.1 INSTALLATION OF THE UHF TV ANTENNA

Before installing the UHF TV Antenna, please check that the premises in which you intend to use the Receiver are within the area that Freeview HD can be received.

Connect the UHF TV Antenna to the "ANT IN" input socket on the back panel of the Receiver.

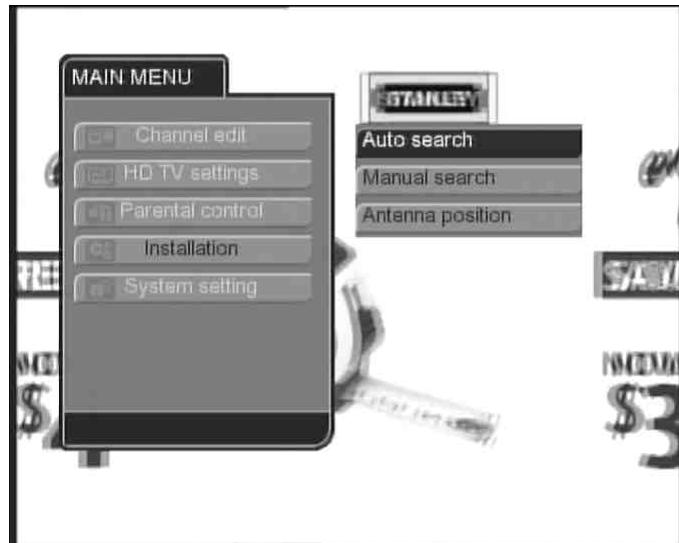
8.2 BASIC INSTALLATION

Press the MENU button on the remote control unit. Select **Installation** to enter the **INSTALLATION** menu. The following options are available:

- Auto Search
- Manual Search
- Antenna Position

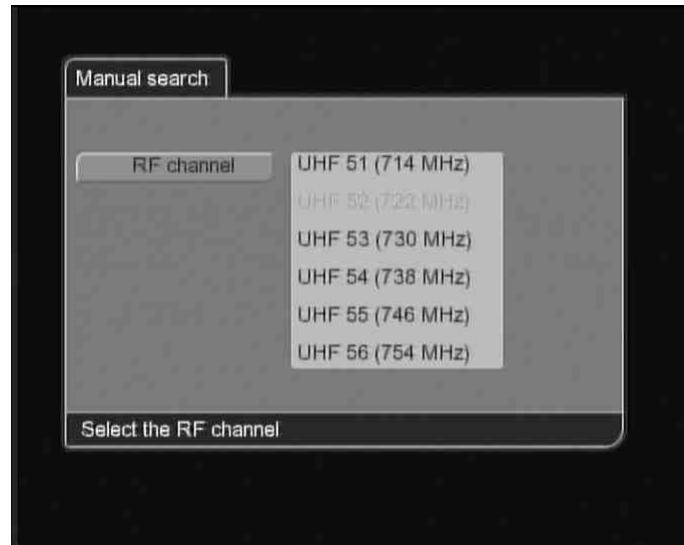
Press the RIGHT button to enter a sub-menu. Select an option using the UP/DOWN buttons and then press OK button to confirm your selection. Press LEFT button to return to previous menu or the EXIT button to cancel your selection.

To enter **INSTALLATION** menu, press the MENU button on the remote control unit, then press DOWN button *three times* followed by the RIGHT button.



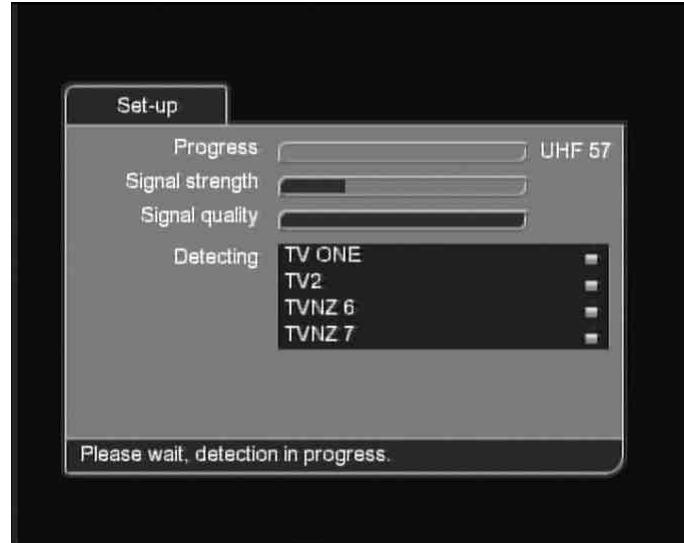
8.3 MANUAL SEARCH

This feature allows you to select a known TV broadcast frequency and search for all TV channels within this frequency. From the **INSTALLATION** screen, press the RIGHT button to enter to the **Manual Search** sub-menu. Press the UP/DOWN buttons or the PGUP/PGDW buttons to select desired frequency and press the OK button on the remote control unit to search for TV channels within this frequency.



8.4 AUTO SEARCH

This feature allows you to search for all available Freeview TV channels in the UHF band. From the **INSTALLATION** screen, select **Auto Search** using the UP/DOWN buttons and press the RIGHT button to enter to the **Auto Search** sub-menu. Press the RIGHT button to perform the Auto Search function. The Receiver may take approximately 3 minutes to complete the Auto Search function and store the detected TV channels.



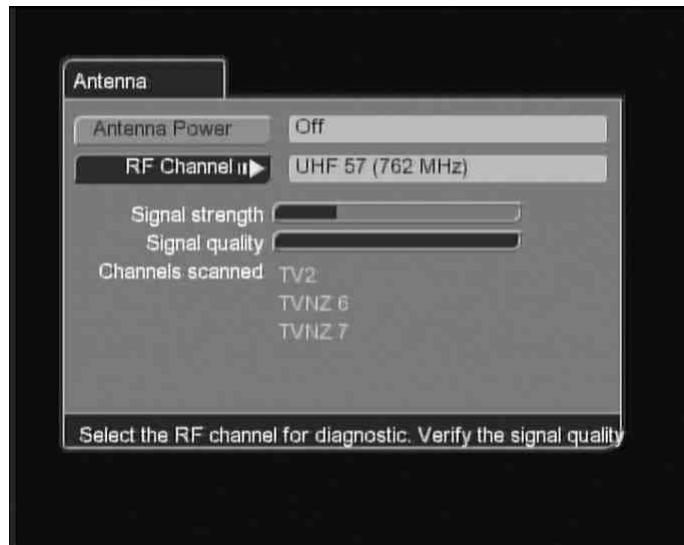
8.5 ANTENNA POSITION

This option allows the user to position the antenna in order to get an optimal signal. There are two features:

Tuner Power: From the **INSTALLATION** screen, select **Antenna position** using the UP/DOWN buttons and press the RIGHT button to enter to the **Antenna position** sub-menu. Select **Tuner Power** and press the RIGHT button on the remote control unit. To provide 5V power supply to the antenna, press the UP/DOWN buttons to highlight the **ON** selection and press the OK button. To turn

off 5V power supply to the antenna, press the UP/DOWN buttons to highlight the **OFF** selection and press the OK button.

Please note that the antenna must support this feature, otherwise, please turn off the 5V power supply feature. This feature is not normally used in New Zealand.



RF Channel: This feature allows the user to select a known TV broadcast frequency in UHF band. From the **Antenna position** sub-menu, select **RF Channel** and press the **RIGHT** button on the remote control unit. Use the **UP/DOWN** buttons to select a known TV broadcast frequency. Validate your selection by pressing the **OK** button or **LEFT** button. Cancel your selection by pressing the **EXIT** button. When the selected frequency carries a DTT signal, the **Signal strength** and **Signal quality** bar-graphs will indicate if the antenna is well positioned. When the signal strength and quality reach an acceptable level, the names of the detected channels are displayed. The user may position the antenna until the **Signal strength** and **Signal quality** bar-graphs improve.

9 SYSTEM SETTINGS

The Receiver can be customized with the following four settings:

- Language
- Timer
- Product info
- Factory reset

To enter **System Settings** menu, press the MENU button on the remote control unit and press the DOWN to highlight **System settings**. Press the RIGHT button to enter the **System setting** sub-menu.



9.1 LANGUAGE

This sub-menu allows the user to set the language for the user interface, audio output and subtitles. Highlight **Language** in the System Setting sub-menu and press the RIGHT button on the remote control unit to enter the **Language** sub-menu.



Menu: This allows the user interface language to be changed. From the **Language** sub-menu, highlight **Menu** by pressing the UP/DOWN buttons and press the RIGHT button. A list of available languages (English) will be displayed. Select the desired language with the UP/DOWN buttons. Confirm your selection by pressing the OK or LEFT buttons. Cancel your selection by pressing the EXIT button. The language change is immediate.



Audio: This allows the selection of the preferred audio language when a programme is broadcasted with several audio tracks. From the **Language** sub-menu, highlight **Audio** by pressing the UP/DOWN buttons and press the RIGHT button. A list of available audio languages (English) will be displayed. Select the desired audio language with the UP/DOWN buttons. Confirm your selection by pressing the OK or LEFT buttons. Cancel your selection by pressing the EXIT button.



Subtitles: This allows the selection of the preferred language for subtitles. From the **Language** sub-menu, highlight **Subtitles** by pressing the UP/DOWN buttons and press the RIGHT button. A list of available subtitle languages (English) will be displayed. Select the desired subtitle language with the UP/DOWN buttons. Confirm your selection by pressing the OK or LEFT buttons. Cancel your selection by pressing the EXIT button.



9.2 TIMER

 The **Timer** sub-menu allows the setting of timer preferences. Highlight **Timer** in the System Setting sub-menu and press the RIGHT button on the remote control unit to enter the **Timer** sub-menu. The following options are available under the **Timer** sub-menu:

- Time offset

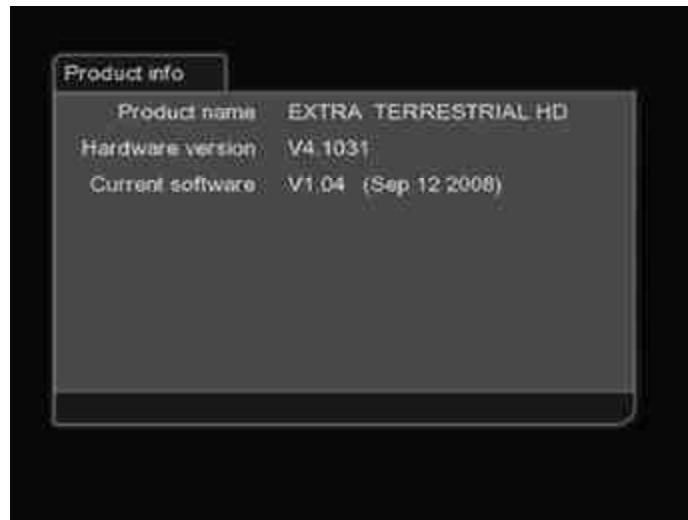
Time offset: This shows the difference between the Greenwich Meridian Time (GMT) and the local time. This value cannot be changed and will display **GMT+0** for New Zealand as the time is broadcast by Freeview as the local time.



PRODUCT INFORMATION

The **Product information** page allows the user to obtain information concerning the current software and hardware version of the Receiver and to set its behaviour in the event a new firmware/software for the Receiver is detected. Highlight **Product info** in the System Setting sub-menu and press the RIGHT button on the remote control unit to enter the **Product information** page. The following information is displayed:

- Product Name
- Hardware Version
- Current software version



9.3 FACTORY RESET

This function allows the user to return the Receiver to factory default settings. From the **System setting** sub-menu, highlight **Factory reset** with the UP/DOWN buttons and enter the system PIN-code and the reset process will start automatically. The default PIN-code is 0000. Please note that after resetting the Receiver, all previously stored TV channels will be lost. The Receiver may take approximately 30 seconds to finish the factory reset process.



10 SOFTWARE / FIRMWARE UPGRADE

10.1 USB INTERFACE SOFTWARE UPGRADE

1. Please go to <http://www.freeviewnz.com/support.html> or contact Satlink customer service to get the latest software for updating the Receiver.
2. Obtain the latest version of the software for your Receiver and store it in the root directory of your USB Flash Drive. Check that the name of the folder containing the latest software in your USB Flash Drive is **AS_HK_DMB_UPDATE**. Please ensure that the folder name **AS_HK_DMB_UPDATE** is stored on the root directory of your USB Flash Drive. Otherwise, the Receiver cannot be upgraded with the latest software.
3. Power off the set top box and insert your USB Flash Drive in the USB interface at the back panel of the Receiver. Power on the Receiver and when it shows "boot" then press and hold any button until it shows "USB" (except standby on the front panel of the Receiver) to start the software upgrade process.
4. The software update process may take approximately 1 minute to complete. The Receiver will restart automatically after the software upgrade process has been completed. Please do not power off the Receiver or remove the USB Flash Drive from the Receiver during the software upgrade process. Otherwise, the Receiver may be damaged.

Warning: The USB interface is for software upgrade of the Receiver only using a USB Flash Drive with FAT32 file system format. The USB interface can not support a USB Flash drive that uses U3 PRO System. Never connect a portable hard disk to the USB interface of the Receiver.

11 SPECIFICATION

Tuner

Input Connector	IEC 16902. Female
Input Frequency Range	VHF&UHF
Num of RF Inputs	1
Input impedance	75 ohm
Input Level	-78 dBmV ~ -20 dBmV
RF output Connector	(bypass)IEC 169-2 Male
Loop through	47-862 MHz

Demodulation

Standard	ETSI EN300 744
Guard interval Modes	1/32,1/16,1/8 Active Symbol duration
FEC Modes Rate	1/2,2/3,3/4,5/6,7/8
Carriers/Constellation	All modes supported including non hierarchical
Demodulation	COFDM(QPSK/QAM16/QAM64) 2K and 8K
Network	MFN/SFN
Channel bandwidth	7 and 8 MHz wide channel 21-68PLL

System Resources

Microprocessor	STI7100
SDRAM memory	128 MB DDR2 SDRAM (2x64MB)
FLASH memory	8 MB NOR FLASH
Display Planes	7 SEGMENTS LED

Video Decoder

Standard	ISO/IEC 13818-2 and ISO/IEC 14496-10
Transport stream	ISO/IEC 13818-1
Video decoding	MPEG-2 SD/HD (MP@ML and MP@HL), MPEG-4 H.264/AVC SD/HD (Main Profile Level 3 and High Profile Level 4)
Video resolution	576I, 576P, 720P, 1080I
Aspect ratio	4:3, 16:9, AUTO

Audio Decoder

Standard	ISO/IEC13818-3 TR1011154
Audio decoding	MPEG-1 and MPEG-2 Layer I & II, Dolby Digital Audio and HE-AAC Digital Audio
Dolby Digital (AC-3)	Stereo down-mixing to analog and digital audio outputs (including HDMI). For digital outputs, L-PCM stereo encoding is provided
Sample rate	32 kHz, 22.1 kHz, 44.1kHz,48 kHz

Subtitles & Teletext

Subtitle	DVB Subtitle
Interactive application	MHEG-5 EPG Application
Teletext	EBU TELETEXT

Rear Panel

CVBS outputs	1 CVBS video output
Audio CINCH	2 Analog Audio L/R connectors (white/red color)
Digital Audio output	Optical S/PDIF and/or Coaxial S/PDIF
YPbPr outputs	Analog HDTV video output
Y/C	S-Video
HDMI	Digital HDTV video output without HDCP. HDMI version 1.3a
USB	USB2.0

Front Panel

bi-colored LED	Blue to indicate the various states of the STB
7-segments LED	To display the channel number or/and other information
Keys	4 keys (Standby, P+, P-, V+, V-,)

Accessories

Remote control unit	IR (36kHz) RC3 / other on request (38kHz)NEC
Batteries	2 x AA R6 type
User Manual	1 in English
RCA cable	1

Power

Power consumption	< 12W
Standby consumption	< 3W

Physical

Operating Temperature	+5 ~ 45 °C
Storage Temperature	-10 ~ +70 °C
Size (W x H x D) (mm)	340mmx250mmx60mm
Size packaging	400mmx310mmx80mm
Weight	1.5 kg